

# PATENT ABSTRACTS OF JAPAN

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## (54) SECONDARY BATTERY

### (57)Abstract:

**PROBLEM TO BE SOLVED:** To improve energy density and output density of a secondary battery and to appropriately use it under high voltage by winding at least one of the outside surfaces of a laminated body of an electrode element into a cylinder with a thin insulating plate and by sealing the winding start part and the last end part of the laminated body by an electric insulating airtight and liquid tight material.

**SOLUTION:** At least, one of the outside surfaces of a laminated body of an electrode element is covered with a thin insulating plate 9 having electric insulating performance and flexibility so as to be wound around into a cylinder. The winding of the thin insulating plate 9 prevents the electric short circuit and the winding start part and the last terminal of the laminated body are tightly sealed by an electric insulating airtight and liquid tight sealing material 8. A thin electronic conductive plate 1' is located in the core side of the winding center and works as a positive electrode terminal and the thin electronic conductive film 1" is located in the end side of the electrode material so as to work as a positive electrode terminal.

